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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/922,127	08/03/2001	Maximilian Ott	111785-122	7855

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EXAMINER

BILGRAMI, ASGHAR H

ART UNIT	PAPER NUMBER
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2143

DATE MAILED: 01/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/922,127

Applicant(s)

OTT ET AL.

Examiner

Asghar Bilgrami

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 October 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) _____ is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-48 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- 1) ☐ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>08/03/2001</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harari et al (U.S. Pub No. 2002/0004844 A1) and Balog et al (U.S. Pub No. 2002/0022453).

3. As per claim 1 Harari disclosed an apparatus for routing content through a network based on semantics of the content being routed comprising: a computer comprising; at least one network interface card (paragraph. 38); a signaling agent; a forwarding agent (paragraph. 16). However Harari did not explicitly disclose in detail a load manager; and a semantic profile manager. Balog disclosed a load manager; and a semantic profile manager (paragraph. 29). It would have been obvious to one in the ordinary in the skill in art to incorporate load manager and semantic profile manager taught by Balog into an apparatus for routing content through network as taught by Harari in order to transfer the content to its destination in an efficient manner.

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4. As per claims 2, 4, 5 & 42 Harari-Balog disclosed a semantic router comprising: a profile manager that aggregates semantic profiles (paragraphs. 32 & 33); and a forwarding agent that forwards semantic packets to neighboring semantic router based on the aggregated semantic profiles (paragraphs. 6 & 29).

5. As per claim 3 Harari-Balog disclosed the apparatus as in claim 2 wherein the semantic profiles are aggregated ontological trees that are used to form routing tables (Balog, paragraph. 29).

6. As per claim 6 Harari-Balog disclosed the apparatus as in claim 1 wherein the profile manager, the load manager and the signaling agent interact to balance processing load of the routing apparatus (Balog, paragraph. 29).

7. As per claim 7 Harari-Balog disclosed the apparatus as in claim 1 wherein the load manager manages processing load partly by delegating the processing load of the routing apparatus to neighboring routing apparatus (Balog, paragraphs. 29 & 31).

8. As per claim 8 Harari-Balog disclosed the apparatus as in claim 1 wherein the load manager interacts with other routing apparatus and a semantic log keeper to become aware of current topology of the network (Balog, paragraphs 34 & 35).

9. As per claim 9 Harari-Balog disclosed the apparatus as in claim 1 wherein the forwarding agent is composed of a routing cache and routing data (Balog, paragraph. 36, lines 1-8).

10. As per claim 10 Harari-Balog disclosed the apparatus as in claim 9 wherein the forwarding agent routes incoming semantic packets to their destination by using information included in the routing cache (paragraph. 36).

11. As per claim 11 Harari-Balog disclosed the apparatus as in claim 10 wherein the forwarding agent analyzes the semantic description of the semantic packet to determine the destination of the semantic packet (paragraphs. 35 & 36).

Claim Rejections - 35 USC § 102

12. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

13. Claims 12-48 rejected under 35 U.S.C. 102(e) as being anticipated by Balog et al (U.S. Pub No. 2002/0022453 A1).

14. As per claims 12, 45, & 47 Balog disclosed a method for routing content through a network based on semantics of the content being routed comprising the steps of: receiving a semantic profile; aggregating the semantic profile with other semantic profiles (paragraphs 32 & 33); receiving a semantic packet; and routing the semantic packet to a destination based on a

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comparison between the content included in the semantic packet and the aggregated semantic profiles (Paragraph. 29, 35 & 36).

15. As per claim 13 Balog disclosed the method as in claim 12 further comprising classifying the content before creating the semantic packet (paragraphs. 35 & 36).

16. As per claim 14 Balog disclosed the method as in claim 12 further comprising filtering the routed semantic packet before reaching a content consumer (paragraph. 38).

17. As per claim 15 Balog disclosed the method as in claim 12 wherein the semantic packet comprises a header and content (Paragraph. 36).

18. As per claims 16 & 29 Balog disclosed the method as in claim 15 wherein the header is in a networking community programming language (Paragraph. 36).

19. As per claims 17 & 30 Balog disclosed the method as in claim 15 wherein the header is in XML markup language (paragraphs. 20, 23 & 31).

20. As per claim 18 & 28 Balog disclosed the method as in claim 15 wherein the header of the semantic packet comprises a preamble, at least one semantic signature, and at least one semantic descriptor (paragraphs. 29 & 34).

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21. As per claim 19 Balog disclosed the method as in claim 18 wherein the semantic descriptors of the semantic packet further comprises environment specific information (paragraphs. 29, 34 & 35).
22. As per claim 20 Balog disclosed the method as in claim 18 wherein the semantic descriptors of the semantic packet further comprises customized information (paragraph. 29).
23. As per claim 21 Balog disclosed the method as in claim 18 further comprising a forwarding agent which routes the semantic packet through the network using the semantic signature (paragraph. 29).
24. As per claim 22 Balog disclosed the method as in claim 12 wherein said method is deployed as an overlay network on top of conventional network routers (paragraph. 6).
25. As per claim 23 Balog disclosed the method as in claim 22 further comprising sending semantic packets through the network routers by tunneling (paragraph. 36).
26. As per claim 24 Balog disclosed the method as in claim 12 wherein the semantic profile expresses a content consumer's interest (paragraph. 29).
27. As per claim 25 Balog disclosed the method as in claim 12 wherein content is only forwarded to a content consumer if the content matches a content consumer's interest as specified in the semantic profile (paragraph. 29 & 38).

28. As per claim 26 Balog disclosed the method as in claim 25 wherein the matching of content to semantic profile is done by comparing structured XML packet headers and content routing trees (paragraphs. 20, 31 & 36).

29. As per claim 27 Balog disclosed the method as in claim 12 wherein the semantic profile comprises: a preamble; at least one profile signature; at least one profile descriptor; information about a lifetime of the semantic profile; authentication data; and a command field that instructs a semantic router (paragraphs. 29 & 31).

30. As per claim 31 Balog disclosed the method as in claim 27 wherein the authentication data is used to verify a user (paragraph. 29)

31. As per claim 32 Balog disclosed the method as in claim 27 wherein the semantic profile further comprises information that allows the semantic network to act as a firewall by controlling who has access to content (paragraphs. 32 & 33).

32. As per claim 33 Balog disclosed the method as in claim 27 further comprising a policy profile that allows the network to determine content received by a content consumer (paragraph. 32).

33. As per claim 34 Balog disclosed the method as in claim 12 wherein the step of aggregating the semantic profile comprises the steps of parsing a profile file; creating and

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populating a node for a profile tree on every information element in the profile file; creating a fact associated with the node (Paragraph. 34); reading in a rule file, wherein rules are written to compare name, value, parent, label and children of the node; running a rule engine which will fire the rules based on the facts; calling a corresponding method that transforms at least one node in the profile tree when the fact fires and attaching methods on subtrees for transformations (paragraphs. 29, 32 & 35)

34. As per claim 35 Balog disclosed the method of claim 34 where the facts and rules are represented in Jess system and the methods are represented in Java programming language (paragraphs. 20, 31 & 36).

35. As per claim 36 Balog disclosed a method for connecting a client to a semantic network comprising: contacting a semantic log keeper; using routing data obtained from the semantic log keeper to query different semantic routers; and selecting suitable semantic routers based on responses to queries (paragraph. 32 & 33).

36. As per claim 37 Balog disclosed the method as in claim 36 further comprising the step of the selected semantic routers receiving a semantic profile from content consumers (paragraph. 29).

37. As per claim 38 Balog disclosed the method as in claim 36 further comprising the step of the selected routers receiving a semantic packet from content producers (paragraphs. 32 & 33).

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38. As per claims 39 & 42 Balog disclosed a method for announcing content comprising: receiving a content profile; aggregating the content profile with other content profiles (paragraph. 33); distributing the aggregated content profiles into a semantic network (paragraph. 35); storing the aggregated content profiles at semantic routers within the semantic network; receiving seek packets; and routing the seek packets based in part on the aggregated content profiles stored at semantic routers (paragraph. 36).

39. As per claim 40 Balog disclosed the method as in claim 39 wherein said seek packets includes a return address (paragraph. 36).

40. As per claim 41 Balog disclosed the method as in claim 39 further comprising the step of pushing content to content consumers (paragraph. 36, lines 14-.18)

41. As per claim 43 Balog disclosed multiprotocol router comprising: a routing engine; a network routing engine; and a semantic packet routing engine (paragraphs.6 & 33).

42. As per claim 44 Balog disclosed an apparatus for routing content through a network having: at least one semantic router, each semantic router connected to a network comprising (paragraph. 6): means for receiving a semantic packet; means for receiving a semantic profile; means for aggregating the semantic profile with other semantic profiles; means for routing content based on the aggregated semantic profiles to at least a next destination (paragraphs. 29 & 32 & 33).

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43. As per claim 46 Balog disclosed a method for an online search engine in a distributed computer network comprising the steps of receiving an interest in specified content (paragraph.31); creating a semantic profile comprising said interest in specified content; propagating the semantic profile to a semantic router (paragraph. 29); aggregating the semantic profile with other semantic profiles on at least one semantic router (paragraph.33); propagating the aggregated semantic profiles through a network; receiving a semantic packet; and propagating the semantic packet through the network towards the search engine based on the aggregated semantic profiles (paragraphs. 35 & 36).

44. As per claim 48 Balog disclosed a scalable semantic network comprising: a plurality of semantic routers distributed among the nodes of the semantic network, wherein each of the plurality of semantic routers having a plurality of ports, said ports having other semantic routers connected thereto, wherein a message is received by a current semantic router via one semantic router via one of said plurality of ports and sent along a preferred route to a next semantic routers via at least one of said plurality of ports (paragraph. 35); wherein each semantic router comprises ontological trees that determine the next semantic routers to which to route a message based on the content of the message; and wherein the ontological trees are based on an aggregation of semantic profiles (paragraphs. 29 & 33).

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Asghar Bilgrami whose telephone number is 571-272-3907. The examiner can normally be reached on M-F, 8:00-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wiley can be reached on 571-272-3923. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Asghar Bilgrami
Examiner
Art Unit 2143

AB


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SUPERVISORY PATENT EXAMINER